

IN THE CLAIMS

1. (currently amended) An electronic toothbrush comprising:
- a brush head portion having a bristle portion (2a), to be inserted into an oral cavity for washing teeth; and
- a holder portion to be exposed outside the oral cavity; ~~cavity~~,
- an n-type semiconductor ~~is provided so as to be capable of receiving~~ to receive external light; and
- a battery ~~is provided so as to be capable of superposing an electrical potential on an n-type semiconductor~~ to superimpose an electrical potential on the n-type semiconductor in order to synergically enhance a photocatalytic effect of the n-type semiconductor, being connected only to the n-type semiconductor.
2. (original) The electronic toothbrush according to claim 1, wherein the n-type semiconductor is TiO_2 , and output of the battery is more than 0.5 V and less than 3.0 V.
3. (previously amended) The electronic toothbrush according to claim 1, wherein the battery is either one of a primary battery, a secondary battery and a solar battery, or combination thereof.
4. (previously amended) The electronic toothbrush according to claim 2, wherein the TiO_2 is an anatase-type crystal.
5. (previously amended) The electronic toothbrush according to claim 2, wherein the TiO_2 is rod like and incorporated into the brush head portion, while the battery is button like, and these battery and the TiO_2 are made conductive via a conductive line incorporated into the brush head portion.

6. (currently amended) An electronic brush comprising:
a brush head portion having a bristle portion; wherein
an n-type semiconductor is ~~provided so as to be capable of receiving~~ to receive external
light; and

a battery ~~so as to be capable of superposing~~ to superpose an electrical potential on the n-
type semiconductor in order to synergically enhance a photocatalytic effect of the n-type
semiconductor, (being connected only to the n-type semiconductor.)

7. (original) The electronic brush according to claim 6, wherein the n-type
semiconductor is TiO_2 , and output of the battery is more than 0.5 V and less than 3.0 V.

8. (previously amended) The electronic brush according to claim 6, wherein the
battery is either one of a primary battery, a secondary battery and a solar battery, or combination
thereof.

9. (previously amended) The electronic brush according to claim 7, wherein the
battery is either one of a primary battery, a secondary battery and a solar battery, or combination
thereof.

10. (currently amended) The electronic brush according to claim 7, wherein the
battery is embedded in the a holder portion following the brush head portion, while the TiO_2 is
attached in the vicinity of the brush head protein, and these battery and the TiO_2 are made
conductive via a conductive line.